

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P309455

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-2700K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P309455
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 2700K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2885.0 lumens
Efficiency: N/A
Efficacy: 76.7 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

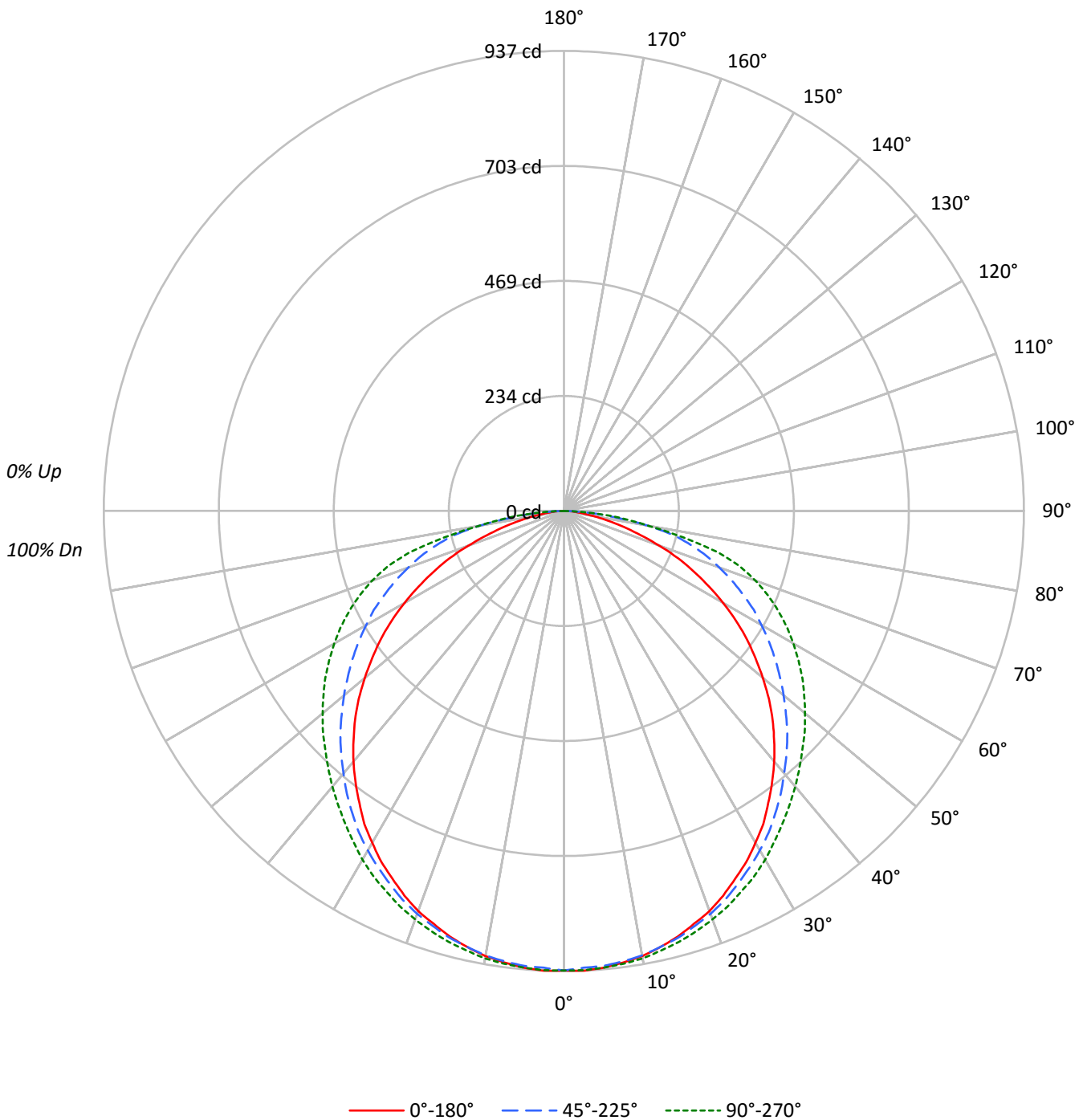
Input Watts (W): 37.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309455

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P309455

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-2700K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1259	1259	1259
5°	1261	1256	1261
10°	1257	1256	1264
15°	1250	1253	1265
20°	1242	1250	1268
25°	1226	1244	1269
30°	1212	1240	1274
35°	1192	1234	1276
40°	1171	1226	1288
45°	1145	1225	1308
50°	1107	1224	1342
55°	1068	1232	1391
60°	1008	1251	1453
65°	931	1280	1534
70°	812	1326	1635
75°	659	1394	1689
80°	487	1366	1366
85°	374	1007	1138



TEST NUMBER: P309455

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.7	3.1
10°-20°	254.6	8.8
20°-30°	387.6	13.4
30°-40°	470.7	16.3
40°-50°	497.3	17.2
50°-60°	469.2	16.3
60°-70°	390.2	13.5
70°-80°	256.7	8.9
80°-90°	70.0	2.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	731.0	25.3
0°-40°	1201.7	41.7
0°-60°	2168.2	75.2
0°-90°	2885.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2885.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	936	936	936	936	936	
5°	934	934	930	934	934	89
15°	897	899	900	908	908	253
25°	826	831	838	853	855	381
35°	726	734	751	771	777	454
45°	602	614	644	675	687	463
55°	455	475	525	575	593	406
65°	292	326	402	461	482	289
75°	127	185	268	318	325	137
85°	24	53	65	72	74	30
90°	0	0	0	0	0	



TEST NUMBER: P309455

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	936.0	936.0	936.0	936.0	936.0
2.5°	937.2	936.0	931.2	936.0	936.0
5°	933.6	933.6	930.0	933.6	933.6
7.5°	927.6	927.6	925.2	930.0	930.0
10°	920.3	920.3	919.1	925.2	925.2
12.5°	909.5	910.7	909.5	916.7	916.7
15°	897.4	898.6	899.8	908.3	908.3
17.5°	881.7	884.1	886.5	896.2	897.4
20°	867.2	868.4	873.2	884.1	885.3
22.5°	847.9	851.5	857.5	868.4	872.0
25°	826.1	831.0	838.2	852.7	855.1
27.5°	805.6	809.2	818.9	834.6	839.4
30°	780.2	786.3	798.4	814.1	820.1
32.5°	756.1	762.1	776.6	793.5	798.4
35°	725.9	734.3	751.2	770.6	776.6
37.5°	696.9	705.4	725.9	747.6	754.9
40°	666.7	676.4	698.1	723.5	733.1
42.5°	634.1	647.4	671.5	699.3	710.2
45°	601.5	613.6	643.8	675.2	687.2
47.5°	566.5	580.9	613.6	651.0	665.5
50°	529.0	547.1	584.6	625.6	641.3
52.5°	491.6	512.1	554.4	600.3	617.2
55°	455.3	474.7	525.4	574.9	593.0
57.5°	415.5	439.6	495.2	548.3	566.5
60°	374.4	401.0	465.0	520.6	539.9
62.5°	333.4	363.5	436.0	491.6	512.1
65°	292.3	326.1	402.2	461.4	481.9
67.5°	252.4	289.9	370.8	430.0	450.5
70°	206.5	253.6	337.0	394.9	415.5
72.5°	164.3	218.6	304.4	358.7	376.8
75°	126.8	184.8	268.1	317.6	324.9
77.5°	93.0	151.0	230.7	247.6	248.8
80°	62.8	120.8	176.3	173.9	176.3
82.5°	41.1	90.6	111.1	124.4	125.6
85°	24.2	53.1	65.2	72.5	73.7
87.5°	12.1	18.1	22.9	24.2	26.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)